

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Fidelity Exploration & Production Company

Well Name/Number: Linda 25-36H

Location: NW NW Section 25 T22N R57E

County: Richland, **MT; Field (or Wildcat)** W/C

Air Quality

(possible concerns)

Long drilling time: 30-35 days drilling time for a single lateral horizontal Three Forks Formation test.

Unusually deep drilling (high horsepower rig): No, triple drilling rig to drill a vertical pilot hole to 9,682' TD in the Nisku Formation. Plugback and kick off and drill a Three Forks Formation, 20,389'MD/10,255' TVD /single lateral horizontal well test.

Possible H2S gas production: H2S gas production is slight.

In/near Class I air quality area: No Class I air quality area in the area of review.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns, adequate surface casing, 1700' to be set and cemented back to surface with proper BOP stack should mitigate any concerns. Triple rig to drill a vertical pilot hole to 9,682' TD in the Nisku Formation. Plugback and kick off and drill a Three Forks Formation, 20,389'MD/10,255' TVD /single lateral horizontal well test. If there aren't any gas gathering system in this area, associated sweet gas and H2S gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, oil based invert drilling fluids to drill intermediate casing string hole and saltwater to drill horizontal lateral. Surface casing hole will be drilled with freshwater and freshwater drilling fluids.

High water table: No high water table anticipated in the area of review.

Surface drainage leads to live water: None anticipated. Closest drainage is an unnamed ephemeral tributary drainage to North Fork Fox Creek, about 1/8 of a mile to the south from this surface location. North Fork Fox Creek is a tributary drainage to the Yellowstone River, about 7.5 miles to the east from this location.

Water well contamination: No, closest water wells are about 3/4 of a mile to the southwest and about 1 mile to the east northeast from this location. Depth of these stock and domestic water wells are 75' and 240'. Surface hole will be drilled with freshwater. Surface casing will be set at 1700' and cemented to surface.

Porous/permeable soils: No, sand silty clay soils.

Class I stream drainage: No Class I stream drainage in the area of review.

Yellowstone River is 7.5 miles to the east.

Mitigation:

☒ Lined reserve pit

- ☒ Adequate surface casing
- ☐ Berms/dykes, re-routed drainage
- ☒ Closed mud system
- ☒ Off-site disposal of solids/liquids (in approved facility)
- ☐ Other: _____

Comments: 1700' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None anticipated.

High erosion potential: Yes high erosion potential on fill slope, moderate cut, up to 14.6' and moderate fill, up to 30.6', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: Large, 470'X470' location size required.

Damage to improvements: Slight, surface use is grasslands.

Conflict with existing land use/values Slight

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation
- ☐ Other _____

Comments: Access will be over existing county roads and existing ranch road. Will construct about 1 3/8 miles of new access into location off the existing ranch road. Drilling fluids will be hauled to a commercial disposal. Oil based invert drilling fluids will be recycled. Solids will be allowed to dry in the lined cuttings pit. When dry the cuttings pit liner will be folded over the top of the solids, spoil dirt to fill pit, top soil spread over pit area, and seeded to land owners specification. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within a 1 mile radius of this wellsite. The town of Sidney, Montana is about 10.3 miles to the northeast from this location.

Possibility of H₂S: H₂S chance is slight.

Size of rig/length of drilling time: Triple drilling rig 30 to 35 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H₂S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified

Proximity to recreation sites: None identified

Creation of new access to wildlife habitat: None

Conflict with game range/refuge management: None in the area of review.

Threatened or endangered Species: Species identified as threatened by the USFWS are Pallid Sturgeon, Interior Lease Tern, Piping Plover and Whooping Crane. Species listed as candidate species are the Greater Sage Grouse and Sprague's Pipit. NH tracker website for this Township and Range lists one (1) species of concern, the Whooping Crane. NH Tracker website list five (5) Potential Species of Concern: Hayden's Shrew, Chimney Swift, Eastern Screech Owl, Tennessee Warbler and Plumbeous Vireo.

Mitigation:

___ Avoidance (topographic tolerance/exception)

X Other agency review (DFWP, federal agencies, DSL)

— Screening/fencing of pits, drillsite

Other:_____.

Comments: Private surface grassland. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

___ avoidance (topographic tolerance, location exception)

X other agency review (SHPO, DSL, federal agencies)

Other: _____

Comments: On private surface grassland. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

___ Substantial effect on tax base

___ Create demand for new governmental services

Population increase or relocation

Comments: Wildcat well test. No concerns.

Remarks or Special Concerns for this site

Well will be drilled as a vertical pilot hole to 9,682' TD in the Nisku Formation. Plugback and kick off and drill a Three Forks Formation, 20,389'MD/10,255' TVD /single lateral horizontal well test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): \s\Steven Sasaki
(title:) Chief Field Inspector
Date: April 18, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)
Richland County water wells
(subject discussed)
April 18, 2012
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Richland County
(subject discussed)

April 18, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T22N R57E
(subject discussed)

April 18, 2012
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____